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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/372,009	08/11/99	FUKUDA	M 8005.165US0

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MAJESTIC PARSONS SIEBERT & HSUE
SUITE 1100
FOUR EMBARCADERO CENTER
SAN FRANCISCO CA 94111-4106

EXAMINER

HARMON, C

ART UNIT

PAPER NUMBER

3721

18

DATE MAILED:

05/31/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/372,009

Applicant(s)

FUKUDA ET AL

Examiner

Christopher R Harmon

Art Unit

3721

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The rejection of claims 18-23 under 35 USC 112 is withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Fukuda et al. (US 5,743,066).

Fukuda discloses a longitudinal sealer for a bag maker-packaging machine comprising air cylinder 4 in series with servo motor 5; sealer 11; controller 22 (figures 1 and 2); cylindrical chute 30; means 98 for bending web S into a tubular form (figure 6). The controller 22 serves to control the compressive force of heat sealing belt 12 against chute 30 with the web S between. The control circuit switches air cylinder 5 to a higher pressure (ON) state to a lower pressure (OFF) state for specified lengths of time (see figures 2, 4, and 5. As far as the thickness of the material is concerned, Fukuda et al. recognize this as a variable to consider (column 2, lines 61-63). It is further considered inherent to a sealing operation, as taught by Fukuda et al., to consider thickness and material of the film to be sealed in order to effectively perform the desired sealing

procedure. Fukuda et al. disclose the heater-mover air cylinder 5 "for releasing the compressive pressure of the seal belt 12 when the machine is stopped." (column 2, lines 46-47) therefore higher pressure when heater unit is moved and lower pressure when compressive force is controlled. The higher and lower pressures are "specified" by the control system/pressure regulator which operate the cylinder.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. (US 5,125,217) in view of Simionato (US 4660,356) and further view of Kreager (US 4,555,289).

The rejection is maintained as in paper no. 7, dated 5/03/00.

6. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (US 5,743,066) in view of Simionato (US 4660,356) and further view of Kreager (US 4,555,289).

Fukuda does not disclose an air cylinder with both a first and second chamber or supplying both higher and lower pressures to the air cylinder at the same time.

Simionato teaches selectively controlled stacked cylinders 9 and 10 (first and second

chambers; figure 1), acting along the same axis. The cylinders move belts 1, slides 7, rollers 4, etc. in order to contact and move the packaging material 3 downwards along chute 2.

Simionato also teaches ducts 11-14 and respective solenoid valves 15a, 15b, 16a, 16b; control unit 17 (figure 2). The control unit effects switching of operation of cylinders 9 and 10 (column 3, line 5 – column 4, line 11). The cylinders 9 and 10 both operate to compress the material for the feeding operation. The compressive force has to be adequate in order for the device to function properly. "The stroke of the cylinders 9 can, of course, be calculated in order to adapt to tubular elements 2 of different diameters, whilst ensuring a constant feeding pressure." (column 4, lines 9-11). Thus the compressive force is considered and described by Simionato.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the cylinder of Fukuda et al. with a dual chambered air cylinder as taught by Simionato and switching means to move the heat sealing unit between various positions.

Concerning the limitation of lower/higher pressure, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to adjust the air pressure since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. *In re Stevens*, 101 USPQ 284 (CCPA 1954). The piston of an air cylinder must have sufficient pressure applied at one end to overcome a state of rest. Once this level of pressure is achieved the piston moves to the physical limits of the other end of the cylinder. This operation is inherent of any functioning cylinder,

therefore in order to propel an adjustable cylinder a desired distance to contact a web for a sealing operation the amount of pressure has to be taken in consideration to supply means for a complete seal. Fukuda and Simionato do not discuss the compressive force applied by the respective belt units (20, 1) but this would have to be considered as an important element in the functioning of the air cylinder(s) and would be obvious to adjust the pressure in a functioning range as applied to each respective cylinder.

While both chambers or cylinders of Simionato (9 and 10) are supplied air at the same/different times, the supplying of higher/lower pressures to both/either cylinders for specified lengths of time is not specifically disclosed. Fukuda et al. do disclose "control unit for controlling the motions of various components of the bag maker machine is not shown in FIG. 6". (column 2, lines 30-33). This depicts that one control unit operates the movement of various items in order to transversely seal the web S. Shown in figures 2, 4, and 5 are alternative control programs for switching on/off both air cylinder 4 and motor 24 supplying power for specified lengths of time (T1, T2, etc.). In one embodiment (figure 2) air cylinder 5 is additionally supplied with power for a specified length of time (T1) while switching power off to motor 24.

Kreager teaches a method and apparatus forming fin-type back seal using cohesive sealants without externally applied heat in which rollers 72 and 82 are movable by means of air cylinders 80 and 88 (figure 1). The apparatus also comprises pressure regulator 92, air activation valves 96, and handle operators 98 and 100 (figure 4). "The air applied to cylinders 80 and 88 (usually at different pressures) is controlled by

separate air activation valves.” (column 3, lines 47-49). Air pressures are further specified as “...(e.g., at 15-35 PSI)...” (column 3, lines 41-42) and “...e.g., 0-15 PSI.” (column 3, line 46) for the separate cylinders 88 and 80, respectively.

The pressure regulator 92 of Kreager supplies different pressures to two separate cylinders: “The pressure applied to the tracking roller 72 from cylinder 80 is usually less than the pressure applied to roller 82 through cylinder 88. The higher pressure on roller 82 is required for forming corrugations and accomplishing the cold seal.” The switching of high/low pressure is performed by the pressure regulator 92 and air activation valves 96 to operate cylinders 80 and 88.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to include the air pressure system (regulator, valves, etc.) as taught by Kreager with the packaging apparatus of Fukuda et al., in view of Simionato, in order to supply the dual air cylinder with adjustable high and low pressures to enable selective control/operation/adjustment of the dual air cylinder for desired lengths of time, while performing all desired forming/sealing/packaging functions.

Response to Arguments

7. Applicant's arguments filed 3/27/01 have been fully considered but they are not persuasive.

Regarding the limitation of “specified air pressures”, air pressures in operating pneumatic machinery such as air cylinders are not set arbitrarily, but rather within certain tolerances in order to provide for safe and reliable operations. Air pressures

operating the systems of Fukada et al., Simionato, and Kreager are all specified by the respective designer for dynamic control of the system. (See also Kreager column 3, line 46).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R Harmon whose telephone number is 703-308-8643. The examiner can normally be reached on Monday-Thursday from 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-305-3579 for regular communications and 703-305-3579 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

ch
May 22, 2001

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke at the bottom.

**PETER VQ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700**